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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,834	12/13/2001	Hang Zhang	7000-105	1048
27820	7590	01/13/2006	EXAMINER	
WITHROW & TERRANOVA, P.L.L.C.			HALIYUR, VENKATESH N	
P.O. BOX 1287			ART UNIT	PAPER NUMBER
CARY, NC 27512			2664	

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/020,834

Applicant(s)

ZHANG ET AL.

Examiner

Venkatesh Haliyur

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14, 16-23, 25-27 is/are rejected.
- 7) ☒ Claim(s) 6, 15, 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

1. Claims 1-27 have been examined.

### **Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3,5, are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al [US Pat 6,718,500].

Regarding claim 1, 5, Lee et al disclosed "RLP Communication Device and Method for Mobile Communication System" for retransmission of frames when a failed attempt to transmit a frame at a physical layer of a receiver was detected and sending a message to link control layer of the receiver to indicate the failed attempt to transmit a frame has been detected, and sending a retransmission message from the link control layer of the receiver to sender to retransmit data associated with the frame [column 2, lines 49-65].

Regarding claim 2, Lee et al disclosed a method for the receiver to determine if a frame has been received in error or lost during the transmission [column 2, lines 53-56].

Regarding claim 3, Lee et al also disclosed link control layer implementing RLP for a data channel to carry information frames pertaining to that channel [items 211,212,221,222 of Fig 2, column 4, lines 15-29].

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4,7-14,16-23,25-27, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al [US Pat 6,718,500] in view of Chang et al [US Pat 6,895,010].

Regarding claim 4,13,22, Lee et al fails to disclose a mechanism at the receiver to generate the retransmission message to include identification for one of the group of RLP frame such that the sender can identify which data or an

RLP frame to retransmit from that group. However, Chang et al disclosed a frame sequencing method with unique identifier for the purposes of retransmitting a failed RLP frame [column 4, lines 60-67, column 4, lines 1-9].

Therefore it would have been obvious for one of ordinary skill in the art to use the teachings of Chang et al in the system of Lee et al such that the sender can identify the group for data or an RLP frame to retransmit in physical layer assisted retransmissions.

Regarding claim 10-12,14,19-21,23, Lee et al disclosed a method for the receiver to determine if a frame has been received in error or lost during the transmission [column 2, lines 53-56]. Lee et al also disclosed link control layer implementing RLP for a data channel to carry information frames pertaining to that channel [items 211,212,221,222 of Fig 2, column 4, lines 15-29]. But, Lee et al fails to disclose an apparatus comprising computer readable medium, control system, communication interface to receive retransmission message at a link control layer, determining data or link control layer frame to transmit and retransmitting the data or link control layer frame requiring retransmission. However, Chang et al disclosed an apparatus [Fig 3] consisting of control system [131 of Fig 3], communication interface [150 of Fig 3] and a method to receive, determine and retransmit data [column 4, lines 10-27]. However, Chang et al, disclosed an apparatus, control system, interface and a method [column 3, lines

28, column 6, lines 12-53] for detecting, determining and retransmitting transmitting data according to radio link protocol in a mobile communications systems [Fig 2 and Fig 3].

Therefore it would have been obvious for one of ordinary skill in the art to use the teachings of Chang et al in the system of Lee et al to include a control system and an interface to detect, determine and send a retransmission message from the link control layer of the receiver to sender requesting retransmission of lost or incomplete data or an RLP frame in physical layer assisted retransmissions.

Regarding claim 7,16,25, Lee et al disclosed a mechanism for sending an acknowledgement message [column 7, lines 31-52], but fail to disclose retransmission message is an acknowledgement message. However, Chang et al disclosed a mechanism where in retransmission message can be an acknowledgement message [column 8, lines 5-14].

Therefore it would have been obvious for one of ordinary skill in the art to use the teachings of Chang et al in to the system of Lee et al for sending acknowledgement message as a retransmission message in physical layer assisted retransmission.

Regarding claim 8,9,17,18,26,27, Lee et al discloses sending link control layer frames from the sender over a wireless communication channel to the receiver via physical layer frames from the sender, but fails to disclose setting a timer upon transmitting each of the link control layer frames from the sender', and resetting the timer upon confirmation the link control layer frames were received or a subsequent link control layer frame is sent. However, Chang et al, disclosed a method by setting and resetting timers for the purposes of retransmitting incomplete data or link control layer frames [column 6, lines 60-67 and column 7, lines 1-9].

Therefore it would have been obvious for one of ordinary skill in the art to use the teachings of Chang et al in to the system of Lee et al for setting and resetting timers for detecting and retransmitting frames in physical layer assisted retransmission.

***Allowable Subject Matter***

4. Regarding claim 6,15,24 are objected to as being dependent upon a rejected base claims but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

**5.** Applicant's arguments filed on 11/25/2005 have been fully considered but they are not persuasive and the examiner respectfully traverses the applicants' response to FOAM dated 8/22/2005 as follows:

**a.** Examiner respectfully appreciates applicants for indicating the error in rejection of claims 1-3,5 under 35 U.S.C § 102(b) in FOAM dated 8/22/05. Examiner has therefore corrects the error for rejections of claims 1-3,5 under 35 U.S.C. § 102(e) as indicated in the detailed action above.

**b.** Examiner respectfully traverses the applicants arguments that Lee et al. does not recite the message in question for claims 1-3,5, wherein the physical layer of the receiver to a link control layer of the receiver and what is done after the physical layer informs the radio link protocol that the frame has not been received. However, Lee et al disclosed in Figure 2 for both sender and receiver, upon receipt of messages at the physical channel of the receiver [item 221/222 of Fig 2] and further disclosed that the physical layer informs the radio link protocol that the frame has not been received [Fig 2, columns 2, lines 49-67, column 3, lines 1-27,column 4,lines 1-67,column 9].



c. Examiner respectfully traverses the applicants' arguments to the claim rejections under 35 U.S.C § 103(a) for claims 4, 7-14, 16-23 and 25-27 in pp 3-5. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references from the related art themselves or in the knowledge generally available to one of ordinary skill in the art.

*Remarks:*

For claims 4, 13, 22, therefore it would have been obvious for one of ordinary skill in the art to use the teachings of Chang et al in the system of Lee et al such that the sender can identify the group for data or an RLP frame to retransmit in physical layer assisted retransmissions.

For claims, 10-12, 14, 19-21, 23, therefore it would have been obvious for one of ordinary skill in the art to use the teachings of Chang et al in the system of Lee et al to include a control system and an interface to detect, determine and send a retransmission message from the link control layer of the receiver to sender requesting retransmission of lost or incomplete data or an RLP frame in physical layer assisted retransmissions.

For claims 7, 16, 25, Therefore it would have been obvious for one of ordinary skill in the art to use the teachings of Chang et al in to the system of Lee

et al for sending acknowledgement message as a retransmission message in physical layer assisted retransmission.

For claims 8,9,17,18,26,27, therefore it would have been obvious for one of ordinary skill in the art to use the teachings of Chang et al in to the system of Lee et al for setting and resetting timers for detecting and retransmitting frames in physical layer assisted retransmission.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached @ (571)-272-3134. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

  
**Ajit Patel**  
**Primary Examiner**